A New Species of Brine Fly From California Rice Fields

(Diptera: Ephydridae)

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In my 1971 revision of the North American brine flies (Genus *Ephydra* Fallén) I gave a number of California records of what I had determined as the Palaearctic species, *Ephydra macellaria* Egger. More recently (Wirth, 1975) I have revised the Old World species of *Ephydra* and have more closely studied the *macellaria* complex. *Ephydra macellaria* Egger proves to be a seacoast species widely distributed in northern and western Europe; whereas the Old World rice field species breeding in habitats of fresher water as well as salt water is *E. helwanensis* Steyskal, described from Egypt and very common and widespread in the Mediterranean area.

The California species is closely related and very similar to *E. macellaria* and *helwanensis*, as redescribed by Wirth (1975), but with distinct genitalic differences. My 1971 description and figures are adequate to characterize the species, and I need merely at this time to indicate how it may be distinguished from *macellaria* and *helwanensis*.

Ephydra usingeri, new species

Ephydra macellaria Egger; Wirth, 1971: 364 (misident.; description and figures; California records).

Resembles *Ephydra macellaria* Egger and *helwanensis* Steyskal in its heavily pollinose body, only slightly shiny, with more of a grayish tinge on the sides; legs yellowish with femora somewhat olivegreen infuscated; setae of body and legs rather large; prescutellar area of female with a low hump bearing a group of longer acrostichal setae. Aedeagus with apex slender and rounded in lateral profile, the anterior membranous lobe with strong ridges only proximally, the recurved basal process about half as long as straight portion. Surstyli stout basally, tapering with rounded tips distally; without distinct sclerotized carina or concavity, with fairly numerous scattered fine hairs except on dorsal side at apex. Gonite with apex bearing 3 distinct lobes. Fifth tergum with short, stout, anteroventral sclerotized process. Sternal plate strongly sclerotized and with very strong transverse ridgelike folds, the whole angularly bent ventrally in middle, forming a strongly serrate ventral process in genital pouch.

Differs from the two related species as follows: Male surstyli less triangular in ventral profile and less pointed distally than in *helwanensis*, the tips rounded but not constricted subapically as in *macellaria*. Gonite nearly as in *helwanensis*,

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the rounded distal lobe not as prominent as in *macellaria*. Sternal plate with large coarse transverse accordianlike pleats nearly as in *macellaria*, but usually deeply folded into genital pouch, not forming as strong a process as in *helwanensis*. Length, 4 mm.

Holotype, *male*, *allotype*, TRACY, SAN JOAQUIN CO., CALIFORNIA, 1 June 1951, J. W. MacSwain (deposited in California Academy of Sciences, San Francisco). Paratypes, 21 males, 30 females, as follows: CALIFORNIA: Kings Co., Tulare Lake, 17 March 1931, E. P. VanDuzee, 4 males, 3 females. San Joaquin Co., Tracy, same data as types, 12 males, 8 females. Stanislaus Co., Westly, 1 June 1949, H. H. Keiffer, collected from rice (California Dept. Agr.), 2 females. Yolo Co., Davis, 30 April, 20–31 May 1960, F. E. Strong, 5 males, 17 females (Davis) Paratypes in collections of USNM, California Academy of Sciences, California Insect Survey in Berkeley, California Department of Agriculture in Sacramento, and University of California at Davis.

The species is named for my teacher and good friend at the University of California in Berkeley, the late Dr. Robert L. Usinger, in tribute to his leadership in the study of aquatic insects in North America, and especially in his home state of California.

From the Stanislaus County collection from rice, and from the nature of the California distribution records, it appears that *E. usingeri* is a distinctly freshwater species that may be associated with rice culture.

LITERATURE CITED

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